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BEST BROS. KEENE'S CEMENT

EST. 1889



SPECIFICATIONS and DIRECTIONS FOR USE





EST BROS. KEENE'S CEMENT is made by the original manufacturers of this material in the United States—the only firm in America making Keene's Cement exclusively. While

many years' experience is required to produce a uniformly perfect Keene's Cement, knowledge of the process of manufacture alone is not sufficient. No matter how good a material may be, satisfactory results cannot be obtained unless it is correctly applied.

THEREFORE, in this booklet we give the specifications and directions for use which our experience of a quarter of a century has proved to be the best adapted for securing satisfactory work. More detailed information on any subject mentioned will be gladly furnished on request.



The Best Bros. Keene's Cement Co.

Est. 1889

MEDICINE LODGE, KANSAS

NEW YORK

CHICAGO

May 1, 1917

To The Architect:
Your special attention is called to pages 8 to 14.

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THE BEST BROS. KEENE'S CEMENT CO.



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HE FIRST ES-SENTIAL in manufacturing Keene's Ce-

ment is purity of the raw material. Government reports show the rock in our quarry to be practically pure. We know of no other deposit like it.



Made in Four Grades

- BEST BROS. KEENE'S "REGULAR" is the grade used for all general plastering and finishing purposes.
- BEST BROS. KEENE'S "FINE" is made from specially selected handpicked rock to ensure purity of color, and is ground somewhat finer than the Regular. It is used for castings, running mouldings, finishing columns and other ornamental plastering, and is extensively employed in the manufacture of Artificial Caen Stone Finish.
- BEST BROS. KEENE'S "COARSE" is a very slowsetting, coarsely ground material used for backing up artificial marble.
- BEST BROS. KEENE'S "SUPERFINE" is used for facing artificial marble. It is slow-setting, exceptionally fine ground, pure white, and has a high tensile strength.

There are no universally recognized standards for Keene's Cement. Each manufacturer makes his own. The time of set and fineness of grinding are occasionally varied to suit the conditions under which the material is to be used, but the tensile strength should be uniformly high. Below are the minimum requirements which every sack of our material must pass before being shipped. As a general rule our Keene's Cement will exceed the figures given by 25%.

	Regular	Fine	Coarse	Super- fine
Tensile strength, in lbs. per sq. in., 7 days in air	350	400	500	550

BEST BROS. KEENE'S CEMENT

"The Plaster That Stands Hard Knocks"

What It Really Is

With the exception of lime, practically all plastering materials for interior use may be broadly divided into two classes, both having their origin in Gypsum rock—namely, hard wall plasters and Keene's Cement.

In the manufacture of hard wall plaster, the Gypsum rock is first ground, then calcined for a short period at a low temperature, forming a very quick-setting material known as plaster of paris. To this are added chemicals to retard the set, also hair, fibre or such other ingredients as may be necessary.



With BEST BROS. KEENE'S CEMENT the process is entirely different. At no stage of the manufacture does Keene's Cement resemble in any manner plaster of paris, and no free chemicals or retarders enter into its composition. In the hands of experienced workmen the material goes through the various processes necessary to produce Keene's Cement, and it is packed in a pure form without the addition of hair, fibre or any other materials. From the moment the rock enters the mill, until the finished product pours into the sacks ready for shipment, the process differs at every point from the method of manufacturing other plastering materials.

BEST BROS. KEENE'S CEMENT contains no retarder; can be retempered as often as necessary; is comparatively slow-setting, and is very hard and strong, without being brittle. It can be worked over thoroughly until all marks of joinings or other inequalities are removed; and as it can be retempered, there is no danger of "dead" plaster

being applied to the walls, thus doing away with a fruitful source of future trouble.

The hard, close grained surface of a wall plastered with BEST BROS. KEENE'S CEMENT forms an ideal base for painting or enameling. The expense of sizing is unnecessary, and the work can be started within a few days after the plastering is completed, thus dispensing with the usual delay. The most delicate colors may be safely applied, as there is no free alkali in BEST BROS. KEENE'S CEMENT.

BEST BROS. KEENE'S CEMENT is occasionally regarded as merely a superior variety of retarded hard plaster, whereas it is the direct opposite of this. It is the absence of unsanitary retarders, and the close, firm, germproof texture of the plaster that have been responsible for the use of our material in so many large hospitals, schools and other buildings where sanitation plays such an important part.

We do not recommend the use of Keene's Cement of any brand for exterior purposes. While it will stand exposure to moisture better than other interior plastering materials, it is not hydraulic, and will in time wear away when exposed to severe weather conditions.

Properly applied, BEST BROS. KEENE'S CE-MENT is permanent. It not only sets slowly, but hardens slowly, and a wall plastered with it grows stronger and more durable the longer it stands.

BEST BROS. KEENE'S CEMENT does not deteriorate with age, as do ordinary plasters. If stored in a dry warehouse, it actually improves with keeping.

Named after the discoverer of the process, "Keene's" Cement has for nearly three-quarters of a century been the acknowledged standard in high-class plastering materials.

We have spent twenty-five years in bringing BEST BROS. KEENE'S CEMENT to its present state of perfection, and the experience and reputation for quality that we have acquired in that period stand behind every sack of material shipped under our brand.



Specifications Suitable for the Use of Architects

PLASTERING

All plastering shall be done with BEST BROS. KEENE'S CEMENT mixed and applied according to the specifications of the manufacturer, provided they do not conflict with the requirements herein.

-With Keene's Cement and Lump Lime-

THREE COAT WORK (On Wood or Metal Lath)

- (A). Scratch Coat, shall be mixed in the following proportions: To one barrel of lime paste add three barrels of sand and plenty of good well beaten, water soaked, long winter slaughtered cattle hair. Gauge each cubic yard of this mixture with three (3) bags Best Bros. Keene's "REGULAR" of one hundred (100) lbs. each. Keene's Cement and sand to be mixed dry before adding lime paste.
- (B). Brown Coat. To one barrel of lime paste add four barrels of sand, and gauge each cubic yard of this mixture with three (3) bags of Keene's Cement as above. Keene's Cement and sand to be mixed dry before adding lime paste.
- (C.) Finish Coat. To each one hundred (100) pounds of Best Bros. Keene's "REGULAR" add two pails of lime paste.

TWO COAT WORK (On Tile and Brick Work)

Brown Coat. Use Brown Coat (B) omitting Scratch Coat. Finish Coat. To each one hundred (100) pounds of Best Bros. Keene's "REGULAR" add two pails of lime paste.

ONE COAT WORK (On Concrete)

To each one hundred (100) pounds of Best Bros. Keene's "REGULAR" add two pails of lime paste.

-With Keene's Cement and Hydrated Lime-

THREE COAT WORK (On Wood or Metal Lath)

- (A). Scratch Coat, shall consist of equal parts of dry hydrated lime and Best Bros. Keene's "REGULAR" in proportions of 1 cu. ft. of Hydrated Lime, 1 cu. ft. of Best Bros. Keene's "REGULAR" and not to exceed 5 cu. ft. of sand, in which shall be thoroughly and evenly incorporated plenty of good, well beaten, water soaked, long winter slaughtered cattle hair.
- (B). Brown Coat, shall consist of equal parts of dry hydrated lime and Best Bros. Keene's "REGULAR" in proportions of 1 cu. ft. of Hydrated Lime, 1 cu. ft. Best Bros. Keene's "REGULAR" and not to exceed 7 cu. ft. of sand.
- (C). Finish Coat, shall be mixed in proportions of 400 lbs. Best Bros. Keene's "REGULAR" and 100 lbs. of dry hydrated lime.

TWO COAT WORK (On Tile and Brick Work)

Brown Coat. Use Brown Coat (B) omitting Scratch Coat. Finish Coat. Shall be mixed in proportions of 400 lbs. Best Bros. Keene's "REGULAR" and 100 lbs. of dry hydrated lime.

ONE COAT WORK (On Concrete)

Finish Coat. Shall be mixed in proportions of 400 lbs. Best Bros. Keene's "REGULAR" and 100 lbs. of dry hydrated lime.

BRICK AND TILE SURFACES

All brick and tile surfaces shall be thoroughly broomed off and washed before the mortar is applied, and shall be damp when it is applied.

CONCRETE SURFACES

Concrete or cement surfaces shall be washed and scrubbed with a steel brush so as to remove all dust and loose particles. The surface shall then be thoroughly washed with a ten per cent solution of muriatic acid in water. The concrete must be thoroughly dampened while the plaster is applied. The one coat finish plaster applied to this shall be a thin coat thoroughly troweled and worked into the

surface of the concrete to make adhesion perfect. Any plastered surfaces that are loose and not properly attached to the concrete after the mortar has dried out must be cut out and done over again, and sufficient area shall be thus removed to make a uniform surface without having the appearance of patch work.

LIME

Hydrated lime shall be soaked in water tight boxes for 24 hours before using.

Lump lime shall be prepared and run through a fine sieve, 16-inch mesh, and properly stored and protected for a sufficient time before using to ensure all particles being thoroughly slaked.

LATHING

Metal lath shall be either painted or galvanized. Wood lath shall be of a good grade, free from knots, sap and bark (white pine preferred). It shall be thoroughly dampened before plaster is applied.

MOULDINGS

Mouldings shall be run straight and true, using metal templates with profiles as given on full sized details.

ORNAMENTAL WORK

The ornamental plaster work shall be cast Best Bros. Keene's Cement, set in place and securely anchored (as hereinbefore specified).

ALTERNATIVE FINISHES

Smooth Hard Finish (for bathroom wainscots and similar work). Use Best Bros. Keene's "REGULAR" neat. No lime to be added. (If an extra fine white finish is required use Best Bros. Keene's "FINE".)

Sand Float Finish. To one barrel of lime paste add four barrels of sand, and gauge with three bags of Best Bros. Keene's "REGULAR" of 100 lbs. each. Keene's Cement and sand to be mixed dry before adding lime paste.

Specifications For Ornamental Work

LATHING

If the work is to be applied to lathed surfaces, only coated or galvanized metal lath shall be used.

PLASTERING

Scratch and Brown Coats shall be mixed in the same proportions as specified for wall surfaces. Allow scratch coat to dry and brown out to within one-fourth inch of the finish coat with a muffled mould. The finish coat shall be applied while the Brown Coat is green.

RUN WORK

All mouldings, window stools, door and window trim and work of like character shall be run in Best Bros. Keene's "FINE."

CORNICES

The finish coat for cornices shall be mixed in proportions of 400 lbs. Best Bros. Keene's "FINE" and 100 lbs. dry hydrated lime.

CAST WORK

Ornamental work of every kind, excepting only run mouldings and cornices as previously specified, shall be cast with Best Bros. Keene's "FINE," used neat. Add only sufficient water to bring it to the consistency of a thick paste. It shall be thoroughly pressed and worked into place, making all members neat and clean.

Plasterers' Quantities

GROUNDS

Wood lath, 7/8 inch. Metal lath, 1/2 inch. Brick or tile, 1/2 inch.

SAND

Must be screened, clean and sharp.

LIME

If lime putty be used, it must be well slaked, run through a fine mesh sieve, and allowed to cool in its bed for a sufficient time before being used.

Hydrated lime shall be soaked in water-tight boxes for at least twelve hours before using. (See also Page 21.)

WOOD OR METAL LATH-Three Coat Work

To each 100 sq. yds. surface.

SCRATCH COAT

- 3 sacks BEST BROS. KEENE'S "REGULAR," of 100 lbs. each.
- 2 bushels of lime (or 200 lbs. dry hydrated lime).
- 1 bushel good, washed hair.
- 3/4 cu. yd. good, clean, sharp sand.

Scratch well and let the wall get hard before applying the second coat. On metal lath more hair must be used, according to the mesh of the lath.

BROWN COAT

- 2 sacks BEST BROS. KEENE'S "REGULAR" of 100 lbs. each.
- 11/2 bushels of lime (or 150 lbs. dry hydrated lime).
- 3/4 cu. yd. good, clean, sharp sand.

This coat must be left under the straight edge and brought to a true and level surface.

FINISH COAT

Use Smooth Finish. (See "FINISHES.")

LAID OFF WORK

Omit scratching and apply second coat immediately after the first.

BRICK OR TILE-Two Coat Work

To each 100 sq. yds. surface.

SCRATCH COAT

- 4 sacks BEST BROS. KEENE'S "REGULAR" of 100 lbs. each.
- $2\frac{1}{2}$ bushels of lime (or 250 lbs. dry hydrated lime).
- 11/2 cu. yds. good, clean, sharp sand.

FINISH COAT

Use Smooth Finish. (See "FINISHES.")

CONCRETE WALLS AND CEILINGS

New concrete should not be plastered until it has properly dried out. Before applying plaster to concrete surfaces, they must be well swept off with a wire broom to remove all dirt and dust and washed with a 10% solution of muriatic acid and water (one quart acid to a bucket of water). The concrete must be dampened while the plaster is applied. Whenever possible concrete ceilings should be done in one coat, using sand float finish or smooth finish. If two-coat work be specified on concrete, the following proportions should be used:

To each 100 sq. yds. surface.

BASE COAT

- 3 sacks BEST BROS. KEENE'S "REGULAR," of 100 lbs. each.
- 1 bushel of lime (or 100 lbs. dry hydrated lime).
- 1/2 cu. yd. good, clean, sharp sand.

FINISH COAT

Use Smooth Finish. (See "FINISHES.")

FINISHES

To each 100 sq. yds. surface.

SMOOTH FINISH

4 sacks BEST BROS. KEENE'S "REGULAR," of 100 lbs. each.

1 bushel of lime (or 100 lbs. dry hydrated lime). This finish coat shall be put on in the best possible manner and troweled to a smooth polished surface. If the brown coat is bone dry, sprinkle with clean water ahead of the finish. Do not trowel to a finish until nearly set.

SMOOTH HARD FINISH

(For bathrooms, wainscoting and similar work.)

5 sacks BEST BROS. KEENE'S "REGULAR," of 100 lbs. each. No lime to be added. If an extra fine white finish is required, use BEST BROS. KEENE'S "FINE."

SAND FLOAT FINISH

2 sacks BEST BROS. KEENE'S "REGULAR," of 100 lbs. each.

1 bushel of lime (or 100 lbs. dry hydrated lime). 1/3 cu. yd. good, clean, sharp sand.

See also "Directions for Mixing and Applying" on page 15.

Directions for Mixing and Applying BASE COAT

First mix the Keene's Cement in a dry form with an equal amount of sand, then add plenty of clean water. Break up the initial set. Add sand and water to the lime putty, also hair for the scratch coat. Dampen thoroughly, then pull the two piles together, adding sand and water until of the proper consistency and proportions.

If more Keene's Cement is required, first mix the same in a DRY form with sand, so that it will not become lumpy when added to the mortar.

The mortar should be stiff, so as not to drop behind the lath.

If the base coat is to be applied over gypsum blocks, it is important that the blocks be well dampened with water before plastering.

Brick and tile and concrete surfaces should also be thoroughly swept off and dampened before plaster is applied.

FINISH COAT

Mix the Keene's Cement with plenty of clean water. Break up the initial set. Lime may be added if specified, but never in a larger proportion than two parts of lime putty to three of Keene's Cement.

Rough on the finish, and ALLOW IT TO SET until a trowel rings when passed over it, then trowel smooth, using as LITTLE WATER as possible. This is important, for if water is used too freely, the finish coat is simply retempered and floated, which does not give the smooth, polished surface that should be obtained with Keene's Cement.

Mortar should be applied thin, so as to spread evenly without curling.

Finish should be laid on immediately after the second coat has set, and before suction has commenced. If the brown coat is bone dry, it should be sprinkled with water ahead of the finish.

DO NOT TRY TO WORK OUT ANY SMALL AIRHOLES that may appear when the Keene's Cement finish is first applied, as they will all disappear before the final troweling.

By using two boxes, and taking mortar from them alternately, one laborer can mix sufficient finish to keep five or six plasterers busy. The plasterers' time is not taken up in mixing the finish, and they can thus cover one-third more surface than when lime and plaster of paris are used.

IMPORTANT

Do not try to trowel a Keene's Cement finish as soon as it is applied. Let it stand for a few minutes—THEN trowel to a hard smooth finish.

Do not throw a Keene's Cement mixture away because it starts to SET either in the box or on the board. Add more water and retemper. You can't kill Best Bros. Keene's Cement.

Wainscoting in Bathrooms, Kitchens and Corridors

To secure absolute sanitation, the base and cap moulds should first be run in BEST BROS. KEENE'S CEMENT "FINE," and the space between filled in as in ordinary plastering. It is customary to run the cap mould about 4 feet 6 inches from the floor.

As the wainscoting is the part of the wall most likely to sustain injury from rough usage, it should be as strong as possible, and very little, if any, lime should be used in the finish coat.

When laying off wainscots in imitation of tiling, the finish should be sufficiently hard for the marking tool to cut sharply defined lines without tearing the wall. In the absence of a proper tool, the handle end of a file will often give satisfactory results. As a general rule it is well to wait for twelve or fourteen hours after the plastering is completed before using the marking tool.

Another method is to allow the finish coat to dry out thoroughly, then mark it off into blocks of the required size with a blue pencil, such as carpenters use, making the lines about one-eighth of an inch wide. The work is then finished with two or three coats of a good transparent varnish.

While the above methods are often followed, a more pleasing and durable effect is obtained by leaving the finish in a smooth state, and not marking it off to reproduce tiling. A Keene's Cement wall is good enough to stand on its own merits without being made in imitation of a less satisfactory material.

BEST BROS. KEENE'S CEMENT is not waterproof. It will stand more moisture than any other interior plastering material, but where it is desired to wash the walls or wainscoting frequently, the same should be either enameled or given some other surface treatment.

For the cost of Keene's Cement wainscots see Page 20.

Cost of Using Best Bros. Keene's Cement

So many factors enter into the cost of finished plastering that it is not practicable to name prices that would apply equally over any large part of the country. The cost of materials and labor in the local market, and the state of business, will frequently cause marked variations in plastering estimates.

As a general rule, three coat work done with BEST BROS. KEENE'S CEMENT will cost about 5c a square yard more than hard wall plaster. This alternate applies generally throughout the Central States. In the Pacific and Atlantic coast states it would be better to figure about 8c per square yard more for Keene's Cement than for hard wall plaster.

Ornamental plastering executed in Keene's Cement is usually figured at about 10c per square yard more than when ordinary casting plaster is used.

In using Keene's Cement for wainscots, very little, if any, lime should be used in the finish coat, which can either be left smooth or marked off in imitation of tiling. (See Page 17.) The total cost of this class of work, including enameling, will usually run about 90c per square yard, with an additional 10c a running foot for cap and base mouldings. This is only a fraction of the cost of tiling, and it eliminates the cost of repairs, which are so frequently necessary when tiles are used.

There is very little difference in final cost between lump lime and hydrated lime for mixing with Keene's Cement. Many contractors figure that the higher initial cost of the hydrated lime is balanced by the time, space and labor that is saved by its use, and therefore do not make an extra charge for it.

On large jobs we recommend the use of a power mixer for mixing the materials required for the base coats. This not only effects a saving in labor, but also thoroughly combines the different ingredients of the mortar. For this class of work a continuous mixer is considered the best type.

For three coat work, done in accordance with our specifications, the actual covering capacity of a ton of BEST BROS. KEENE'S CEMENT is 220 square yards.

Difference Between Hydrated and Lump Limes

We are frequently asked whether Hydrated Lime can be used in place of Lump Lime for mixing with BEST BROS. KEENE'S CEMENT. Lime may be used in either of the above forms, but owing to the variation in the sand-carrying capacity of the different brands of hydrated lime, a contractor should figure on using a full 100 lbs. of hydrated lime in place of each bushel of lump lime.

The figures given in the following comparison are taken from tests made between two of the best-known brands of lime on the market. These figures will vary slightly for different kinds of lime, according to chemical composition and efficiency in burning, but for general purposes they are accurate.

100 lbs. Lump Lime	100 lbs. Hydrated Lime
1.15cu. ft. displacement	3.59
3.27cu. ft. of putty	2.63
272.00lbs. of putty	
83.20. weight of 1 cu. ft. of p	utty in lbs 86.90
30.50 lbs. required to produce	1 cu. ft. of putty. 38.00

While the above table shows that 30½ lbs. of lump lime will produce as much putty as 38 lbs. of hydrated lime when it comes to sand-carrying capacity the best brands of hydrated lime will nearly off-set this difference, and, pound for pound, will carry practically as much sand as the lump lime.

Castings

Castings made with BEST BROS. KEENE'S CE-MENT possess a strength and richness of texture not obtainable with any other materials. The natural surface of a Keene's Cement casting is an egg-shell gloss but it can be polished to a marble like lustre if desired. If a small quantity of mica dust be sprinkled in the mould, the resulting cast will have the rich, sparkling appearance of unpolished marble.

If plaster moulds are used, they should be given five or six very thin coats of sweet oil, brushed well in. This is the best method of greasing the mould to prevent the cast showing oil stains.

After the Keene's Cement has been poured into the mould, it should be left undisturbed until it has set. Shaking the mould while the Keene's Cement is still in a liquid form does not drive out the air-bubbles, as some people seem to think, but merely forces them to the face of the casting.

The way to avoid air-bubbles in castings is to mix the Keene's Cement to the consistency of cream, and then pour in a small amount of the material, tilting the mould so that the Keene's Cement covers all the face of the mould with a very thin skim of material. Repeat this operation three or four times, and then fill the mould.

The time of setting may be materially hastened by using about 5 per cent of a freshly calcined, high-grade plaster of paris. On no account should more than one part of plaster of paris to twenty parts of Keene's Cement be used.

In making castings for Artificial Marble or Caen Stone, it is necessary to mix the material into a fairly stiff paste, which has to be thoroughly pressed and worked into all parts of the mould. When the cast is removed from the mould, any airholes can then be filled in with the same material as was used in making the cast. This filling in should always be done with wooden floats or pointers; steel tools should not be used for the work.

NOTES

BEST BROS. KEENE'S CEMENT will keep indefinitely if stored in a dry warehouse. It does not deteriorate with age, but on the contrary improves.

* * *

It is quite satisfactory to apply a finish coat of BEST BROS. KEENE'S CEMENT over a base coat of hard wall plaster, although better results are of course obtained if both base and finish coats are done with BEST BROS. KEENE'S CEMENT.

* * *

Do not use too much lime in the finish coat. The proportion should never exceed two parts of lime to three parts of BEST BROS. KEENE'S CEMENT.

* * *

BEST BROS. KEENE'S CEMENT can safely be remixed as often as necessary. If it starts to set up and harden, either in the mixing box or on the board, just add a little water and re-mix. It positively will not "kill."

* * *

A Keene's Cement finish can be troweled until it is perfect—until all marks of joinings are taken out and a smooth, level surface is obtained. It will not go "dead," however long you work it.

* * *

It is not advisable to mix coloring matter with Keene's Cement or any other plastering material, as the wall will usually dry out streaky and uneven in shade. If a colored wall is desired, first plaster it, then paint the plaster.

* * *

BEST BROS. KEENE'S CEMENT is carried in stock by the leading dealers of practically every large city in the United States as well as in many of the smaller cities.

A Partial List of Buildings Wherein Best Bros. Keene's Cement Has Been Used

FEDERAL BUILDINGS

BUILDINGS. U. S. Senate Office Building.	LOCATIONS. Washington, D. C.	AR	CHITECTS. Woods and	Car-
U. S. House Office Building, Conference Room		rere d	& Hastings	
U, S. Capitol, Senate and House Office Bldgs, Sub-			& Hastings	
Ways		rere &	& Hastings	Car-
U. S. Penitentiary. U. S. Immigrant Detention	Atlanta, Ga	Eames &	& Young	
Bldg U. S. Fort Bliss	exas	U. S. G.	overnment	
U. S. Post Office	Bellingham, Wash	1" & C.	Burnham & overnment overnment	Co.
U. S. Post Office	Alpena, Mich	U. S G	overnment	
U. S. Post Office I U. S. Post Office I	ola, Kans Hattiesburg, Miss	U.S. Go	overnment overnment	
U. S. Post Office	It. Clemens, Mich ndependence, Kans	U.S. Go	overnment overnment overnment	
U. S. Post Office	laryville, Mo	II. S Ge	overnment overnment overnment	
U. S. Post Office I U. S. Post Office L U. S. Post Office	aragnuld, Ark	U. S Go	overnment overnment overnment	
U. S. Post Office J.	ohnstown, N. Y	U. S Go U. S Go	overnment overnment	
U. S. Post Office	o, Chicago, Ill.	U. S Go U. S Go	overnment overnment overnment	
U. S. Post Office SU. S. Post Office XU. S. Post Of	Genia, Ohio	U. S Go	overnment overnment overnment	
U. S. Post Office E U. S. Post Office L U. S. Post Office P	ebanon, Tenn 1	U. S. Go	overnment overnment overnment	

STATE AND PUBLIC BUILDINGS

BUILDINGS. State Educational Building Alba	LOCATIONS.	ARCHITECTS. Palmer & Hornbostel
State Library & Supreme		
Court	Hord, Conn	- Donn Barber
State Capitol	a Fc. N Mex.	I. H. & W. M. Rann
State Capitol Mad	ison. Wis.	Gen B Post & Song
State Asylum	gor, Me	J. Calvin Stevens
Missouri State Library Colu	mbia Mo	Inc D Inmisson
Chiversity of Pennsylvania Phil	adelphia. Pa.	Cone and Stewardeon
University of Minnesota Min	neapolis Minn	C H Johnston
National Museum Was		oh o 11
Jefferson MemorialSt.	Louis, Mo	Innaa Taul
G. A. R. Memoriai Top	ka Kas	Chan II Chandles
Memorial Building Day Allegheny Co. Soldiers'	ton, Ohio	W. E. Russ
Memorial Pitt	sburgh, Pa	Palmer & Hornbostel
mass, inst. of Technology Bos	on. Mass	-Wm Wells Rosmorth
Hudson County C. H Jers Olathe County C. H Olat	ev (liv v	Hugh Doborto
Hardin County C. H Ken	on, Ohio	Richards, McCarty and Bulford

STATE AND PUBLIC BUILDINGS—Continued

BUILDINGS	LOCATIONS	ARCHITECTS.
Rowan County C. H	Samomer, M. C	A Ton Evek Brown
Frank in County C H	Ottown, Kna.	Gm P Washburn
Generalia County C. H.	Carrenne, Mich.	Clark & Munger
Las Animas County (H	Trinklad, Col	L II & W M Happ
Public Library -	E St Louis, III.	M A HE Brummo
Public Library	Chicago, Di.	Coolings
Art institute		
Walker Branch Library Zoolo leal Bullding		Jackweis & Street
M. Y. Stuliway Enternalisms	New York, N. T.	Public Service Commis-
New City Hall	Cleverano, Ohio	J Militon Dives
Cley Hall Institut Court P. D. Statish	Grainway, 111	Mariey Chatter
ltra	constant, Oho	Armont W. Turnmont

SCHOOL	S, COLLEGE	ES, ETC.
BUILDINGS		ARCHITECTS
Green Clevelend His school Larayette High school High School High School High School High School Laural Awenus School Evergit High School Wavenum High School Cam School	Dufferto, M. V. Martino, M. V. Martino, M. V. Martino, M. E. Leoutes, Fit Deceation, I. M. Carry, End. (Uniformation, N. V. Evervett, Wash, Pflint, Mire).	20 or la L Johnson H. W. Whitell M. J. M. Bruman E. A. Events M. J. Himr H. G. Cardener Aughter & Segiver Van Leyn & Stolling
Bildeli Sphool West Feet flich School Hurchinson Fligh School Rokown High School Polosis High School Loretto Academs	Duffalo, N. Y., Bustonio, Pet Bolomo, Pet Pittoski, Va.	F S Income h to Horses E F Zuniap Fres S Phathetons
Visionastom, Indonog To experts Washington University N. W. Milliary Vegrents From Marting Transport	St. Louis Mu. Emile, Wie	N. P. Longsett & Co. Cupe and Stowaghous. Marshall & Flor.
Doitding		C Frank Jelson
	BANKS	
BUILDINGS	LOCATIONS	ARCHITECTS

BUILDINGS	LOCATIONS	ARCHITECTS
First National Bank First National Bank First National Bank First National Bank Only National Bank National Bank of Page	Cheveland, Chio Engineered, Hi Landhburs, Tu Columbus, Ohlo	John R. Pachles J. Millon Dyes Julian Planes Lawie Buretone Richards: McCarty 1 Toniord
ay lead to be the		disc. S. Ovin & Street
National Chank of Common National Sections. National Exactions of Point National Foundations of Point Date National Exactions Clark Foundation of Tombon Points of Tombon Common	New York K. T. Philiphian Fa Incapose As Incapose Call Chinago, 124.	McKim, Mond & White form S (1919 & Him) Wratt & Moltans Julian Hornes Green & Wishs J. C. Holland Thus H. Jameson E. J. Age Young S. Historiell S. H. C. Tork, Rulan & Consider
ContinuatataCom marcia Bank	(1	

OFFICE AND BUSINESS BUILDINGS

OTTION THIS	DUSTINESS	DUILDINGS
BULDINGS. Victor Building No. 2 Temple Church Building I Hearst Building I Horvell-shapleigh Building I Hamilton-Brown Building I Hamilton-Brown Building I Hamilton-Brown Building I He News B	LOCATIONS. Camden, N. J Kamsas City, M. San Francisc, Cal Fupeka, Kans. New York, N. Y. Fhiradelphia, Pa Chicago, Ill. Roanuke, Va t. Louis, Mo. Sacramento, Calif. t. Louis, Mo. Denver, Colo Dayton, Ohio New York City	ARCHITECTS. Ballinger & Perrot J. W. McKeckin Kirby, Petit & Green Root & Slemens Clinton & Russell D. H. Burnham & Co. Frye & Chesterman Weber & Groves Meyer & O'Brien H. E. Blach & Son L. A. Desjardines Albert Pretzinger J. H. Morgan
Gimbel Bris. Building. Gloyd Building. Bell Telephone Building. Straus Studio. Peoples Gas Co. Building. The Ward-Corby Co. Building. Pioneer Building. Pioneer Building. By Pope Building. Walnwright Building.	Cansas City, Mo Broukline, Mass, I. t. Louis, Mo Chicago, Ill.	D. H. Burnham & Co. and Clinton & Russell J. W. McKerknie Frank Westun Louis Mullgardt D. H. Burnham & Co. C. B. Comstock A. Wethersham
Benoist Building S. Goddard Building B. Arcade Building D. Fifth Ave. Office Building N. F. T. Crowe & Co. s Office T. Riebold Building D.	t Louis, Ma osion, Mass. ayton, Ohio ew York City acoma, Wash	sey John D. Paulus Arthur Vinal F. M. Andrews Maynicke & Franke Darmer & Culting P. Burns & A. Pret-
Foxcroft Building S Pillsbury Building S Monadnock Building S Pacific Building S McDonough Building S Maskey Building S Maskey Building S Maskey Building S Maskey Building S Walker Building S Formercial Building S Formercial Building S Formercial Building C Formercial Building C The Berry-Strond Building L Ingalis' Office Building C Marquette Building K Kansas City Star Building K	an Francisco, Callan Francisco, Callanoke, Va. maha, Neb. manoke, Va. manda, Neb. manda, Ohio.	Meyers & Ward Meyer & O'Brien C. F. Whittelsey Wm. Curlett Havens & Toepke Lewis P Hobart Bebb & Mendal H. H. Huggins H. A. Raapke Heard & Caldwell Elzner & Anderson

HOTELS, CLUBS, APARTMENTS

	obcbo, min.	
Claypool Hutel Hotel Roanoke	Roanoke Va	Samuel Green & Co
Ritz-Carlton	Your Vaule N. V.	
Plaza Hotel Windsor Hotel Onondaga Hotel Algers Hotel Plaza Hotel Brown's Palace Hotel St. Nichelas Hotel	Wheeling, W. Va Syracusi, N. Y Spokane Wash Indianapolis, Ind	nett Jeffer, Daris Las W Bates Esenweln & Johnson L. L. Rand Ora C, Pierson
Schenley Hotel Maryland Hotel Hotel Rector New Palace Hetel Business Men's Club University Club	Pittsburgh, Pa St. Louis, Mo New York City San Francis o Calif	Rams y Ruten & Russell A, B, Grints D. H. Burnham & Co

HOTELS, CLUBS, APARTMENTS-Continued

BUILDINGS.	LOCATIONS.	ARCHITECTS.
Country Club	Birmingham, Ala .	. Miller & Martin
Birmingham Athletic Club	Birmingham, Ala	Miller & Martin
Y. W. C. A	Detroit, Mich	Donaldson & Meier
Warren Chambers	.Boston, Mass	Ball & Dabney
Belview Apartments	Dayton, Ohio	C. I. Williams
North State Parkway Apts	Chicago, Ill	Marshall & Fox
Courtland Apartments	Lynchburg, Va	.A. Chesterman
Perry Apartments	Seattle, Wash	.Somerville & Cote
Belnord Apartments	New York, N. Y	.H. Hobart Weeks
Alwyn Court Apartments -	New York, N. Y	.Harde & Shorte
Astor Court Apartments	New York, N. Y	Chas. A. Platt

HOSPITALS, MUSEUMS, ETC.

A DOLLATIONS A DOLLATIONS
BUILDINGS. LOCATIONS. ARCHITECTS. Buffalo Historic Soc. Bldg Buffalo, N. Y
Lying-in Hospital St. Louis, Mo. J. H. Randall Barnes Medical College St. Louis, Mo. J. B. Legg & Co. Methodist Orphan Homes St. Louis, Mo. T. B. Hannan & Son Monticello Seminary Godfrey, Ill. Link & Rosenhein Lakeside Hospital Cleveland, Ohio J. E. Kinninger West Tuberculosis Infir'y New York City R. F. Almirail Rensselaer Polytech. Inst. Troy, N. Y. Lawlor & Haase St. Mary's Sanitarium Pueblo, Colo P. Mills Sacred Heart Hospital Spokane, Wash. Albert Held Jefferson Hospital Roanoke, Va. Miller & Mahood St. Francis Hospital Pittsburgh, Pa. Sheckert New German Hospital San Francisco, Cal Herman Barth Hahnemann Hospital Los Angeles, Cal W. H. Mohr Elliott Memorial Hospital Minneapolis, Minn. Psychopathic Hospital Soston, Mass. Kendall, Taylor & Co. St. John's Hospital St. Louis, Mo. Barnett, Haynes & Barnett,
Hillman Hospital Birmingham, Ala Chas. Wheelock & Son St. Vincent Hospital Birmingham, Ala T. M. Walters St. Elizabeth Hospital Lincoln, Neb. James Tyler, Jr. Provincial Mental Hospital Mt. Coquitlam, B. C. H. S. Griffith Home for Indigent Philadelphia, Pa. Phillip H. Johnson Montefiore Home for Jewish People New York City Buchman & Fox State Hospital for Insane Chattahoochee, Fla Bishop & Greer Barnes Hospital St. Louis, Mo. Theo. C. Link Children's Hospital St. Louis, Mo. Mauran, Russell & Crowell
Measles Hospital New York City W. E. Austin Norwich Hosp'l for Insane Norwich, Conn Cudworth & Woolworth Mt. St. Mary's Hospital Niagara Falls, N. Y. W. P. Ginther Mount Zlon Hospital
Urological Hospital Baltimore, Md Archer & Allen Louisville Public Hospital Louisville Ky D. X. Murphy & Bro. Columbia Hospital Washington, D. C N. C. Wyeth Munson State Hospital Palmer, Mass Kendall, Taylor & Co. Municipal Tuber Hospital. Detroit, Mich Louis Kamper St. Mary's Hospital Philadelphia, Pa Ballinger & Perrot Christian Church Hospital Kansas City, Mo Henry F, Hoit University of Va. Hospital. Charlottesville, Va Paul J. Peltz and Walter D. Baltr
Illinois Central Hospital Chicago, Ill Schmidt, Garden & Mar-
Detroit Receiving Hospital Detroit, Mich J. Scott & Co. Rochester Dental Dispensary Rochester, N. Y Gordon & Madden and William Kaelbar

STATIONS, THEATERS, CHURCHES

BUILDINGS.	LOCATIONS.	ARCHITECTS.
New Union Station Michigan Central Termina	. Kansas City, Mo	. Reed & Stem and
A. T. & S. F. Station Union Passenger Station New Union Station Union Station Wisconsin Central Station C. & N. W. Station D. L. & W. Terminal Hudson Terminal Building U. P. Headquarters Bldg Merchants Loft Bldg	Tampa, Fla. Joliet, Ill. Pittsburgh, Pa. Chicago, Ill. Chicago, Ill. Hoboken, N. J. New York, N. Y. Omaha, Nebr.	J. F. Leitner Jarvis Hunt D. H. Burnham & Co. A. H. Lowden Frost & Granger Kenneth M. Murchison Clinton & Russell
Grand Central Termina		ren A Wetmore
Symphony Audit rium Strand Theater New Masonic Temple Opera Heuse Victoria Theater Rialto Theater Church Latter Day Saints St. Adalbert's Church 2nd X'ian Science Church	New York, N. Y. Quincy, Ill. Kennett, Ma. Chicago, Ill. New York, N. Y. Independence, Kans Chicago, Ill.	McMurray & Pulis Thus. W. Lamb John Batschy L. B. Blackwood J. Eberson Thos. W. Lamb Jas. Oliver Hogg Henry J Schlacks Cram, Goodhue & Fer-
Lutheran German School Evangelical Jesus Church Norwegian Luth Church Central Christian Church Sacred Heart Convent Living Park Methodis Church Benedictine Convent of Per	St Louis, Mo. Tacoma, Wash. Wichita, Kans. St Louis, Mo. t Chicago, Ill.	Ernest Hess Wandruff & Constable C. D. Hunby J. H. McNamarra H. B. Wheelock
petual Adoration		Rev. P. Lukas Barnelt, Haynes & Bar- nett
St. Paul Church and Par sonage	.St. Louis, Mo	Chas. F. Money T. H. Poole & Cit

RESIDENCES

OWNERS	LOCATIONS.	ARCHITECTS.		
Henry Ford	. Chicago, Ill.	H. I. Cobb Widmann, Walsh &		
C. G. Powers Spreckel's House Jos. Grant Horace H. Irvine Samuel Insull Wooster Lambert	San Francisco, Cal San Francisco, Cal St Pau Minn.	Reid Bros, Hiss & Weeks Wm. Channing Whitney Marshall & Fox Mauran, Russell &		
Geo. M. Reynolds F. E. Woodruff C. Q. Chandler C. C. Perry W. C. McElhaney J. McDonough J. Ogden Armour R. A. Long A. T. Hurt John A. Garver J. L. Loose J. A. Aylor G. W. Baylor Col. Wm. E. Hughes	Chicago, III. Blinghamton, N. Y. Wichita, Kans. Indianapolis, Ind. Pittsburgh, Pa. Denver, Colo. Chicago, III. Kansas City, Mo. Louisville, Ky. Oyster Bay, L. I. Kansas City, Mo. Kansas City, Mo. Rannak Ve	Criwell Marshall & Fox E. Vosbury U. G. Charles D. A. Boilfn A. S. Miller J. B. Benedict Arthur Heun H. F. Hell Loomis & Hartman Stephenson & Wheeler Root & Slemns Sheppard & Farrar		
Chester I. Long . W. C. Stephenson R. H. McCord . H. McCormick Blair J. L. Johnson . C. S. Pillsbury . August A. Busch	Wichita, Kans Roanoke, Va Kansas City, Mo. Chleago, Ill. Wichita, Kans	Crowell M. P. Murduck Frys & Chesterman Henry F. Hult -Arthur Heun H. S. Conrow		



